LSP Fast-Reroute Using RSVP Detours

Ping Pan (presenter)
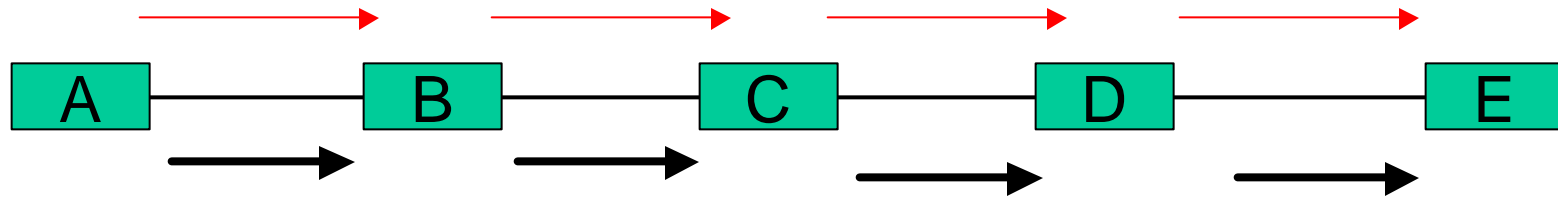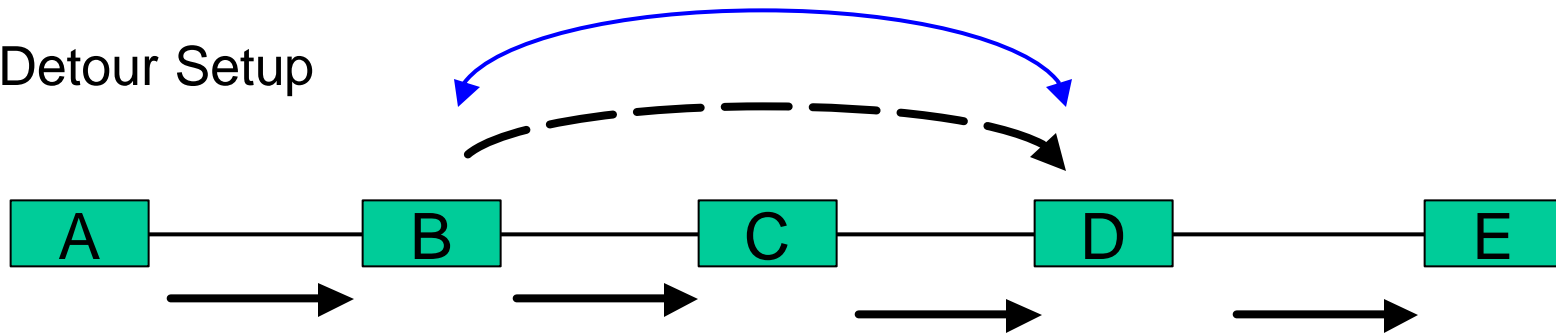
IETF 51, 8/6/2001

Motivation

- Flexible

- Protect user traffic from both link and node failure.

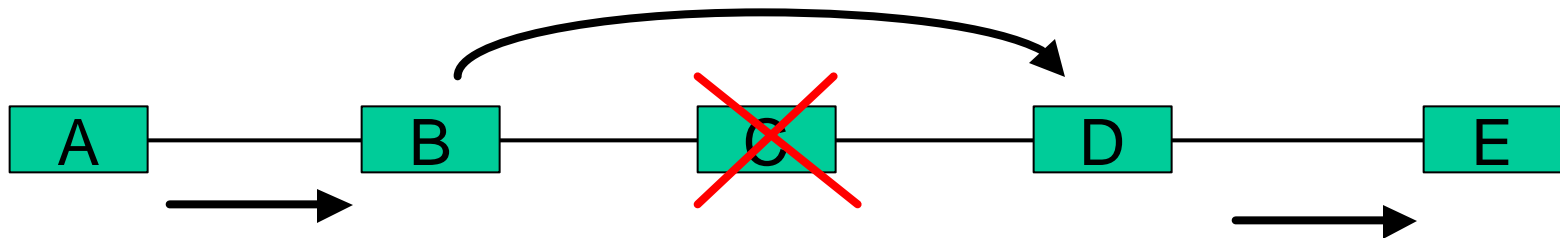- Minimize user intervention and configuration.

Operation

Fast-reroute Request

A — B — C — D — E

Detour Setup

A — B — C — D — E

Fast Reroute

A — B — C — D — E
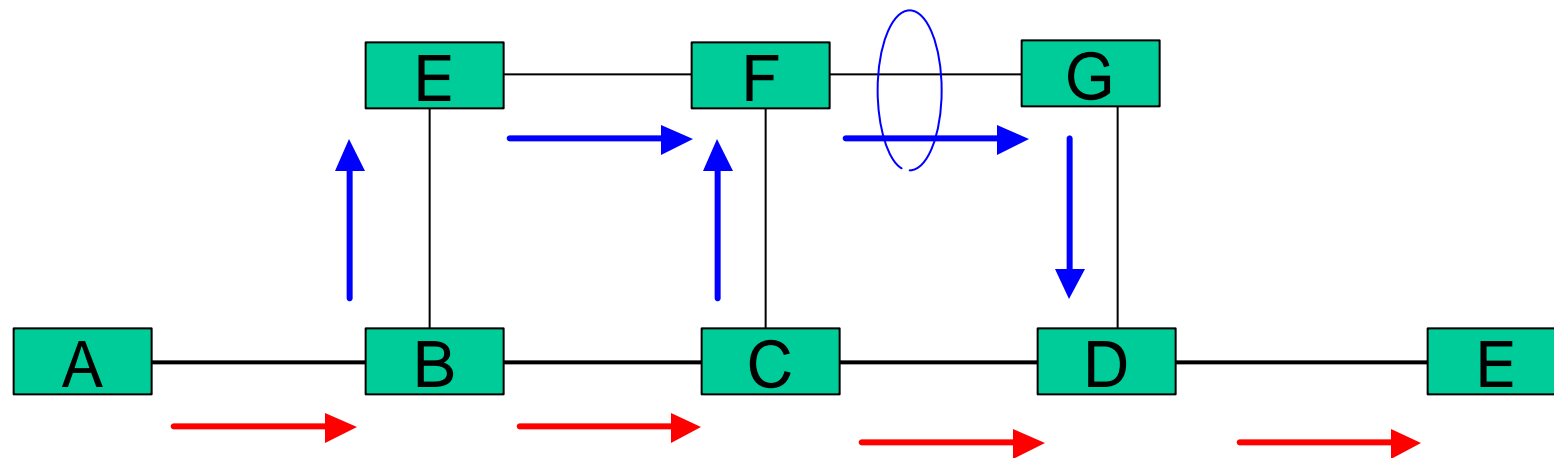
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Operation (detour merging)

Detour Merging: Merging all detour reservations that come from
different ingress, but have the same egress and next-hop.

Goal: To shrink the states.

Protocol Issues

- **Fast-Reroute Request**
  - Inside Path messages
  - FAST-REROUTE object
    - Detour path parameters (e.g. bandwidth, etc.)
- **Detour Setup**
  - Use IGP/TE to setup a new LSP
  - DETOUR object
    - Detour destination (learnt from RRO)
- **Process detour LSP's independently**

Summary

- **Flexible and extensible**
  - Guarantee CoS and b/w per LSP.
- **Single solution for both node and link protection.**
- **Adaptive:**
  - Does not require all nodes to support it.
- **Minimal user intervention.**
- **Operational.**
- **Require IGP/TE and RRO support.**

Scaling Issues

- Designed to protect selective LSP's.
- Support detour LSP merging to reduce the total number of LSP's.
- Refresh reduction helps!